Installation and Configuration Guide

eResept - Forskrivningsmodul

Thula

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1 Document Control

1.1 Revision Tracking

This document is subject to revision control such that after each formal change a new revision is created with a new date and version number. At any given time the approved revision with the highest version number is considered the official and valid version of this document.

1.2 Document Source, Storage and Distribution

The source of this document is maintained by Thula, and stored in the document repository. This document shall be distributed in PDF format only.

1.3 Revision History

Date	Version	Author	Description
2011-09-14	1.0d	Magnús Kristjánsson	Created based on existing installation memo
2011-09-19	1.0e	Gísli Harðarson	Added information about Configuration Wizard
2011-09-30	1.0f	Gísli Harðarson	Updated information about Configuration Wizard
2011-10-28	1.0g	Gísli Harðarson	Updated screen shots of setup procedure and Configuration Wizard
2011-10-31	1.0	Bjarni Ívarsson	Added prerequisite section covering hardware and software requirements + database configuration + certificate installation
2011-11-02	1.1a	Ægir Örn Leifsson	Added information about software version on the front page. This document version relates to version 2.3.40 of the FM.
2012-02-01	1.2a	Atli Sturluson	Added section about messaging folders
2012-02-02	1.2b	Fernando Meira	Updated section about the installation of certificates and step 3 of the installation wizard.
2012-03-03	1.2c	Elisa C Stead	Updated screenshots, logo, and company name. Some style changes & reference updates.
2012-03-08	1.2d	ViðarJúlíusson	Added information on UserManagement web service
2012-03-13	1.2e	Viðar Júlíusson	Updating version of the document to match the release 2.3.90.0
2012-04-25	1.2f	Viðar Júlíusson	Updating version of the document to match the release 2.3.100.0

1.4 Related Documents

The following background documents are relevant to this guide:

Document	Description
eResept FM – EPJ API and technical specification	EPJ API and technical specification for the Prescription Module.

1.5 Reader Comments

If you have any comments on this RFC document please send those by e-mail to the product manager.

1.6 Glossary

This section lists some terms used in this document and specifies how they are to be interpreted within the scope of the document.

Abbreviation	Explanation or web reference
Forskrivningsmodul	Prescription module. The software being described in this document.
FM	Forskrivningsmodul.
EPJ	Electronic patient journal. A computerized patient record/journal system that communicates with the FM through the FM EPJ API and import/export of patient data (described in user help included with the Administration portion of the FM~~section **Error! Reference source not found.**~~).
API	An application programming interface (API) is an interface implemented by a software program that enables it to interact with other software. See http://en.wikipedia.org/wiki/API.
RF	Reseptformidleren. See http://www.helsedirektoratet.no/eresept/reseptformidleren__703584:

"Reseptformidleren er et sentralt elektronisk helseregister/database som de aller fleste meldinger i eResept går gjennom. Her oppbevares den elektroniske resepten og her slettes den, 4 uker etter at den er blitt ugyldig, det vil si ferdig ekspedert eller utløpt på dato."

2 Introduction

This administrator guide describes how to install, update and configure the eResept Prescription Module (FM) using the installers and configuration wizard.

This guide also explains how to import patients and prescriptions into a freshly created FM.

3 Prerequisites

3.1 Hardware and software requirements

The technical requirements are described in a separate document: ***eResept FM – EPJ API and technical specification.*** It is important that the requirements listed in that document are followed to the letter.

Before installing the FM these steps should be carried out:

1. Install all mandatory and optional updates in Windows Update (may need to be done several times, since some updates don't become available until others have been installed).
2. If the .NET Framework v4 is not installed, it should be installed from here: http://www.microsoft.com/download/en/details.aspx?displaylang=en&id=17718

3.2 Database

The FM uses a Microsoft SQL Server database to store all data. A free version of SQL Server 2008R2 Express is available from here (this link is also provided in the configuration wizard):

http://www.microsoft.com/download/en/details.aspx?id=23650

The FM application server requires a user account on the database server that has the following server roles:

- ***dbcreator***
- ***public***
- ***sysadmin***

The FM application server can use either Windows authentication or SQL Server authentication to authenticate to the database. If you choose to use Windows authentication, it is important to note that the FM application server will be running under the ***Network Service*** user account and will need to have access to the database as that account.

It is possible to change the user account that the service runs under (in the ***Services*** management tool in Windows), but that is not recommended since that setting will be reset when the FM application server is upgraded.

3.2.1 Creating a Windows authentication SQL Server login

The following steps should be followed in order to create a login in SQL Server using Windows authentication. This authentication model is recommended if the SQL Server and FM application server are running on the same machine, or if ***Active Directory*** is being used (in which case the application server will use the credentials of the computer account when accessing network resources). Note that these steps are for SQL Server 2008R2 Express and may differ slightly for other versions of SQL Server:

1. Startup ***Microsoft SQL Server Management Studio*** (included in the SQL Server 2008R2 Express version linked to in section 3.2, and also available as a separate download from Microsoft).)
2. Select ***File -> Connect Object Explorer…*** from the menu.
3. Type in the server name (e.g. localhost\sqlexpress) and press the ***Connect*** button.
4. Open the ***Security -> Logins*** node in the ***Object Explorer*** tree.
5. Right click the ***Logins*** node and select ***New Login…*** from the popup menu.

6. Press the ***Search…*** button on the top-right of the ***Login-New*** dialog.
7. Type in ***Network Service*** into the search field and press the ***Check Names*** button. If the Network Service is not found, make sure that "From this location:" is set to the local computer, not the active directory.
8. Press the ***OK*** button.
9. Select the ***Server Roles*** page, and check the ***dbcreator***, ***public*** and ***sysadmin*** server roles.
10. Press the ***OK*** button.

3.2.2 Creating a SQL Server authentication SQL Server login

The following steps should be followed in order to create a login in SQL Server using SQL Server authentication. This authentication mode is recommended if the SQL Server and FM application server are running on different machines and if Active Directory is not being used. Note that these steps are for SQL Server 2008R2 Express and may differ slightly for other version of SQL Server.

1. Startup ***Microsoft SQL Server Management Studio***.
2. Select ***File -> Connect Object Explorer…*** from the menu.
3. Type in the server name (e.g. localhost\sqlexpress) and press the ***Connect*** button.
4. Open the ***Security -> Logins*** node in the ***Object Explorer*** tree.
5. Right click the ***Logins*** node and select ***New Login…*** from the popup menu.
6. Select the ***SQL Server authentication*** radio button.
7. Type in the desired ***login name*** (e.g. eReseptFM) and ***password***.
8. Uncheck the ***Enforce password expiration*** and ***User must change password at next login*** check boxes.
9. Select the ***Server Roles*** page, and check the ***dbcreator***, ***public*** and ***sysadmin*** server roles.
10. Press the ***OK*** button.

3.3 Certificates

The FM uses 4 different kinds of certificates, these are:

1. The local organizational certificate (including a private key).
2. The RF organizational certificate.
3. Smart card certificates.
4. The CA Certificates used to validate the authenticity of the certificates described above.

Note that the first two (as well as any CA certificates) ***MUST*** be installed in the ***Local machine*** certificate store in order for the FM application server to be able to use them. The FM application server runs under the ***Network Service*** user account, and needs to be able to access the certificates from that account. The first two certificates can be installed by the FM application – in the Administration client. The second certificate can also be installed during the first application setup, using the Installation Wizard. Nevertheless, the following instructions present an alternative to install and setup the required certificates.

3.3.1 Installing the local organizational certificate

The steps below should be followed in order to install the local organizational certificate (usually provided as a .p12 file), and granting read access to the private key to the FM application server. Note that these steps are for Windows 2008R2 and may differ slightly for other versions of Windows:

1. Startup ***mmc.exe*** (Microsoft Management Console).
2. Select ***File -> Add/Remove Snap-in*** from the menu.
3. Select ***Certificates*** in the list, and press the ***Add*** button.

4. Select ***Computer Account***, and press the ***Next*** button.
5. Select ***Local Computer***, and press the ***Finish*** button.
6. Close the ***Add or Remove Snap-ins*** window by pressing the ***OK*** button.
7. Open the ***Certificates (Local Computer) -> Personal -> Certificates*** node in the tree.
8. Right click on the ***Certificates*** node and select ***All tasks -> Import*** from the popup menu.
9. In the ***Certificates Import Wizard***, press the ***Next*** button.
10. Browse to the file containing the certificate, and press the ***Next*** button.
11. Type in the password for the private key, and press the ***Next*** button.
12. Select the ***Personal*** store as the location for the certificate and press the ***Next*** button.
13. Press the ***Finish*** button, the certificate should now be in the ***Personal*** store under ***Local computer.***
14. Move any CA certificate imported along with the local organizational certificate from the ***Personal*** certificate store to the ***Trusted Root Certificate Authorities*** store using drag and drop.
15. Right click the imported organizational certificate, and select ***All tasks -> Manage Private Keys…*** from the popup menu.
16. In the ***Permissions*** dialog, click the ***Add…*** button.
17. In the ***Select Users*** dialog type in “network service” into the search field, and press the ***Check Names*** button, followed by the ***OK*** button.
18. Make sure that the “Network Service” account has read access to the private key (should be the default).
19. Close the ***Permissions*** dialog by pressing the ***OK*** button.

3.3.2 Installing the RF organizational certificate

The following steps should be followed in order to install the RF organizational certificate (required for any communication with the RF):

1. Startup ***mmc.exe*** (Microsoft Management Console).
2. Select ***File -> Add/Remove Snap-in*** from the menu.
3. Select ***Certificates*** in the list, and press the ***Add*** button.
4. Select ***Computer Account***, and press the ***Next*** button.
5. Select ***Local Computer***, and press the ***Finish*** button.
6. Close the ***Add or Remove Snap-ins*** window by pressing the ***OK*** button.
7. Open the ***Certificates (Local Computer) -> Personal -> Certificates*** node in the tree.
8. Right click on the ***Certificates*** node and select ***All tasks -> Import*** from the popup menu.
9. In the ***Certificates Import Wizard***, press the ***Next*** button.
10. Browse to the file containing the certificate, and press the ***Next*** button.
11. Press the ***Finish*** button, the certificate should now be in the ***Personal*** store under ***Local computer.***
12. Move any CA certificate imported along with the local organizational certificate from the ***Personal*** certificate store to the ***Trusted Root Certificate Authorities*** store using drag and drop.

3.3.3 Installing smart card certificates

The FM uses a driver from BuyPass (BuyPass Access Enterprise, not provided as a part of FM) which needs to be installed in order for smart card access to work. The installation of that driver is not detailed in this document; please refer to instructions provided by BuyPass.

3.4 Messaging folders

The PM application server uses two folders for dropping and picking up messages that are sent to external systems. These folders must exist so that the application server starts and works properly. As a default, these folders are:

- **For incoming messages**: "..\fm_inbox", i.e. this is relative to the folder where the server application is installed. E.g. if it is installed in the folder "d:\prog\legedata\fmmodul\eresept forskrivningsmodul", then the folder "d:\prog\legedata\fmmodul\fm_inbox" will be used.
- **For outgoing messages**: "..\..\outbox", so this would translate to "d:\prog\legedata\outbox".

The server will try to create these folders during the installation process, but the user running the server (default is Network Service) will usually not have the privileges needed to create folders, so this will fail and a warning message is displayed. To resolve this, the user must open Windows Explorer and manually create these two folders and give the user running the service full permissions to read and write to them.

4 Installation and Configuration

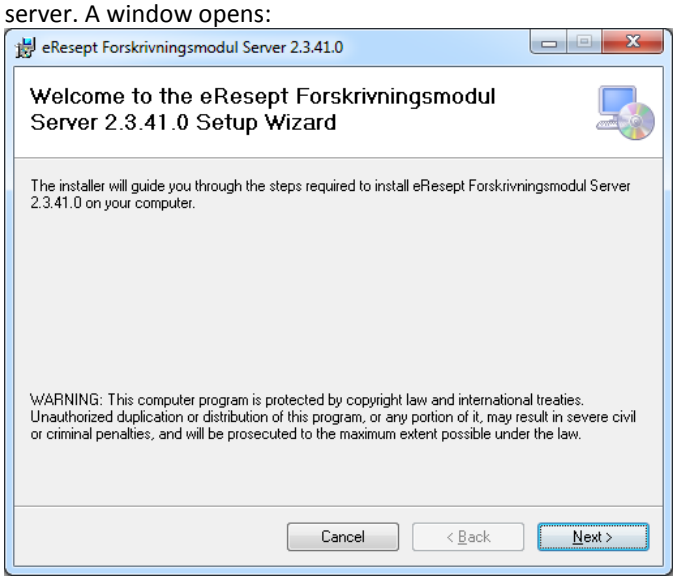
Each release of FM contains two installer packages, one for the application server and one for the client. The application server installer contains the application server executable as well as a configuration wizard that is used to configure the system for the first time.

The client installer contains the FM client, as well as an administrator client. It is recommended to run both installers on the machine that will host the application server.

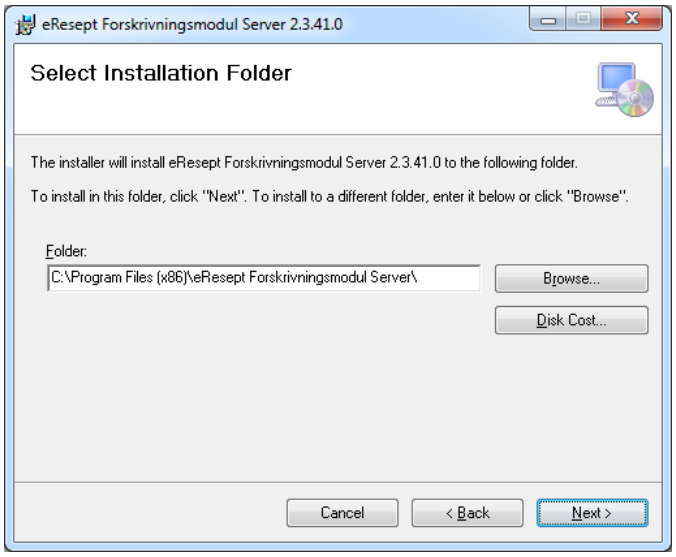
4.1 Installing FM for the first time

4.1.1 Server installation

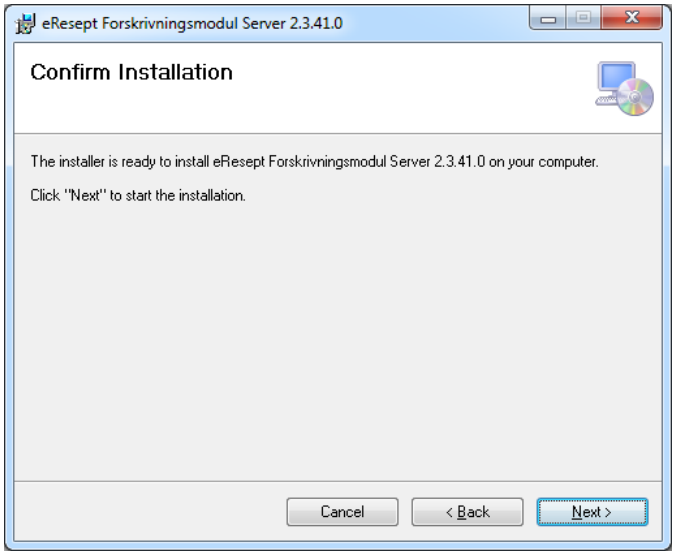
1. In the Installers folder, under Application Server, click on ***setup.exe*** to install the application server. A window opens:



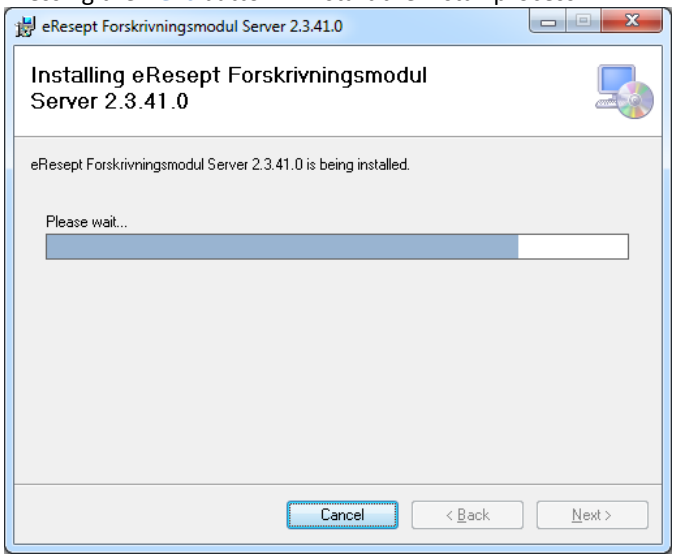
2. Press the ***Next*** button. In this window you can select the folder where the FM server will be installed:



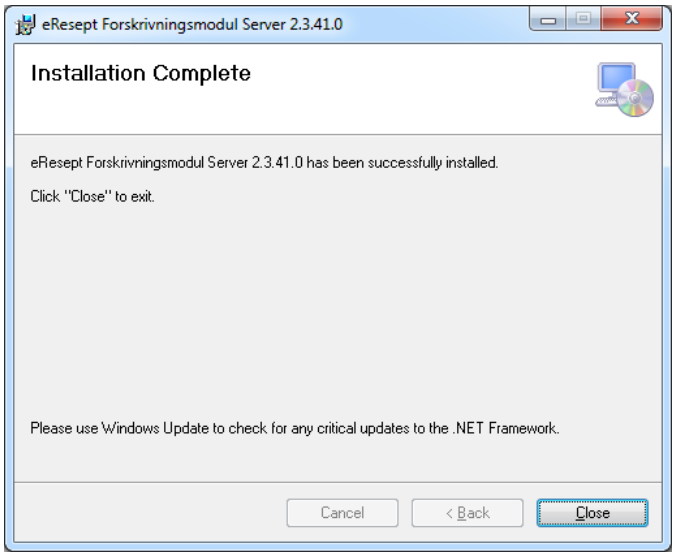
3. Press the ***Next*** button. In this window you confirm the installation and are ready to install the FM server:



4. Pressing the ***Next*** button will start the install process:



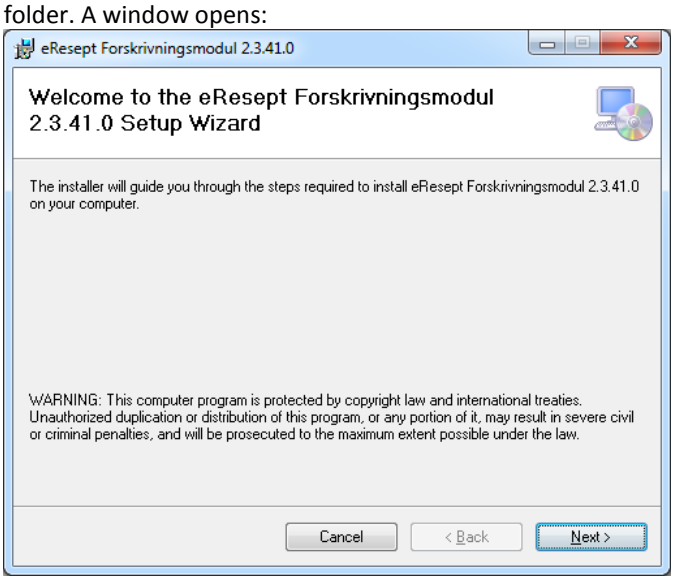
5. When the installation is complete, this window displays. Press the ***Close*** button to complete the server installation:



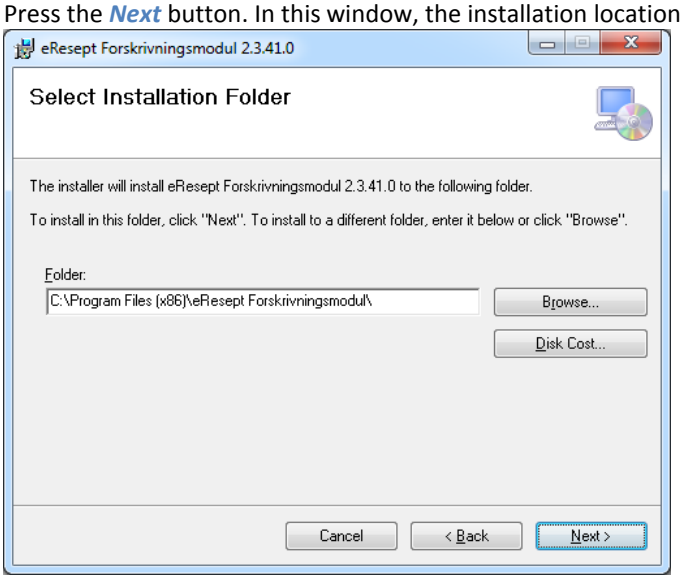
Now a shortcut has been created on the Desktop to start the configuration tool for the server (see chapter 4.1.3 for configuring the server). This shortcut can also be found on the start menu in folder ***eResept Forskrivningsmodul***.

4.1.2 Client installation

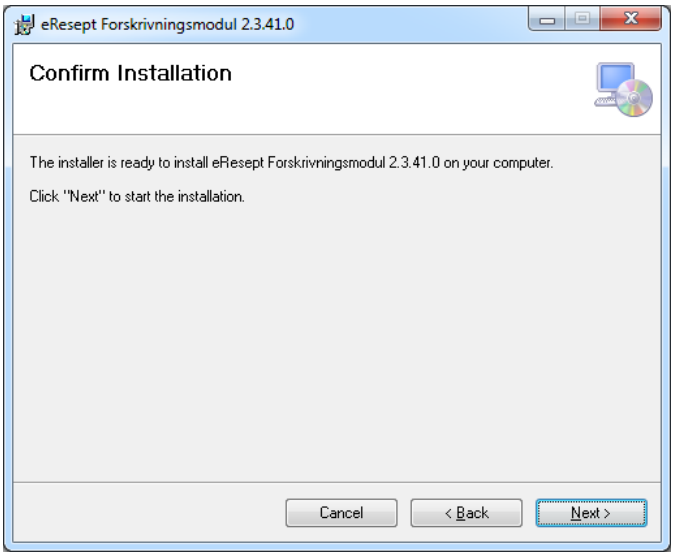
1. To install the eResept Prescription Module client, click on the ***setup.exe*** file in the Installers\Client folder. A window opens:



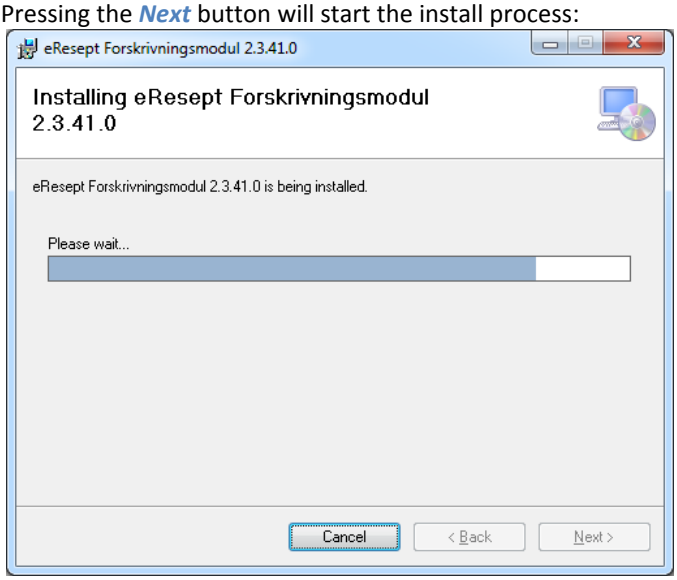
2. Press the ***Next*** button. In this window, the installation location can be selected:



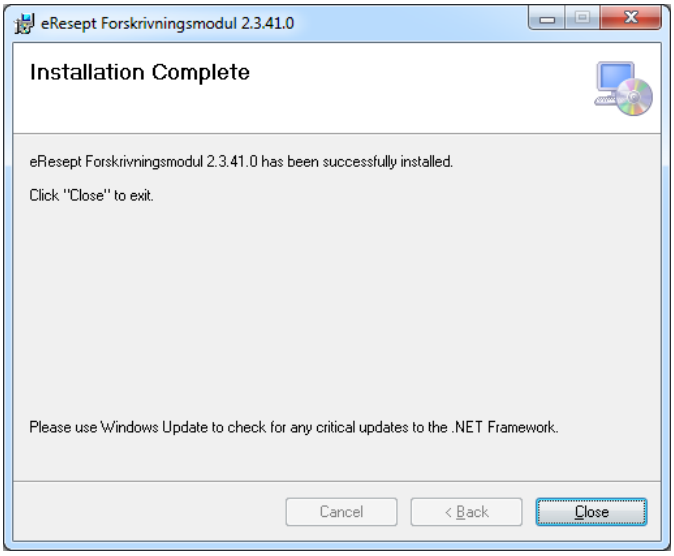
3. Press the ***Next*** button. In this window you confirm the installation and are ready to install the FM client:



4. Pressing the ***Next*** button will start the install process:



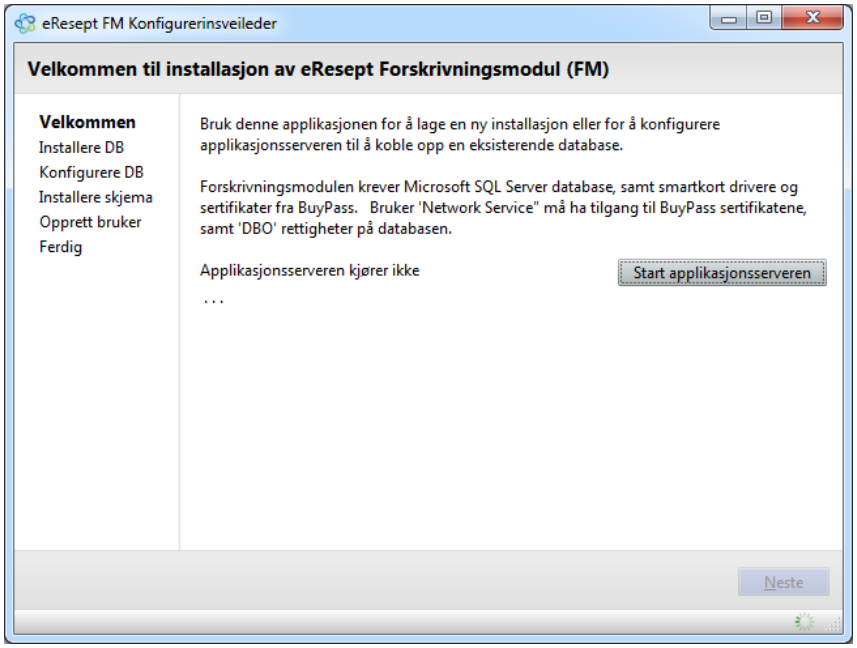
5. When the installation is complete, this window displays. Press the ***Close*** button to complete the client installation. The eResept Prescription Module is now ready to be used:



Now a shortcut has been created on the start menu in folder ***eResept Forskrivningsmodul*** to run the Administration client. However, that cannot be run until the application server has been configured.

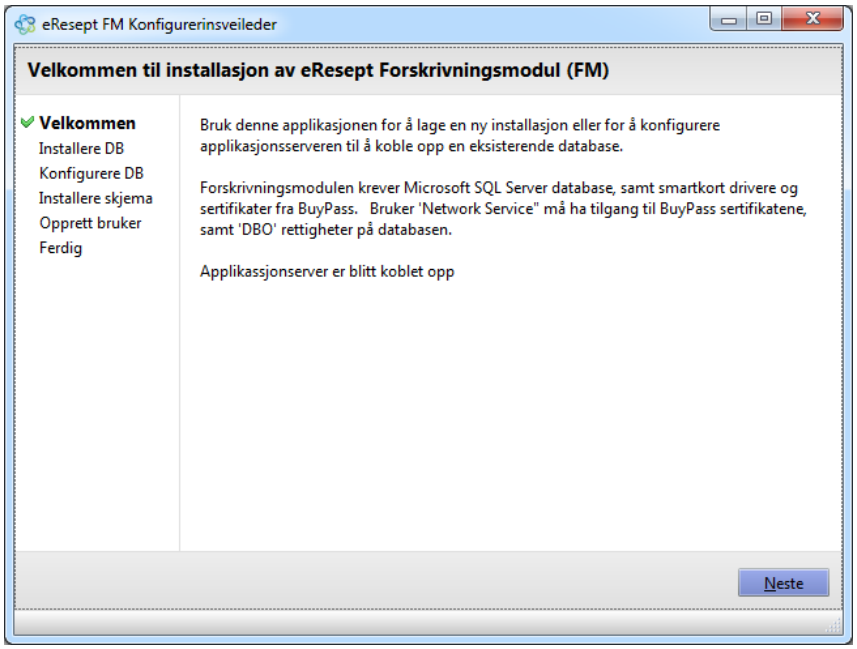
4.1.3 Configuring the application server

1. Clicking on the desktop icon created in the after successful installation of the server opens a tool for setting up the system for the first time. Running it requires administrative privileges since it manipulates system settings. Use this application to set up and configure a new database, connect to that database and create an admin user that can log into the Admin Client.

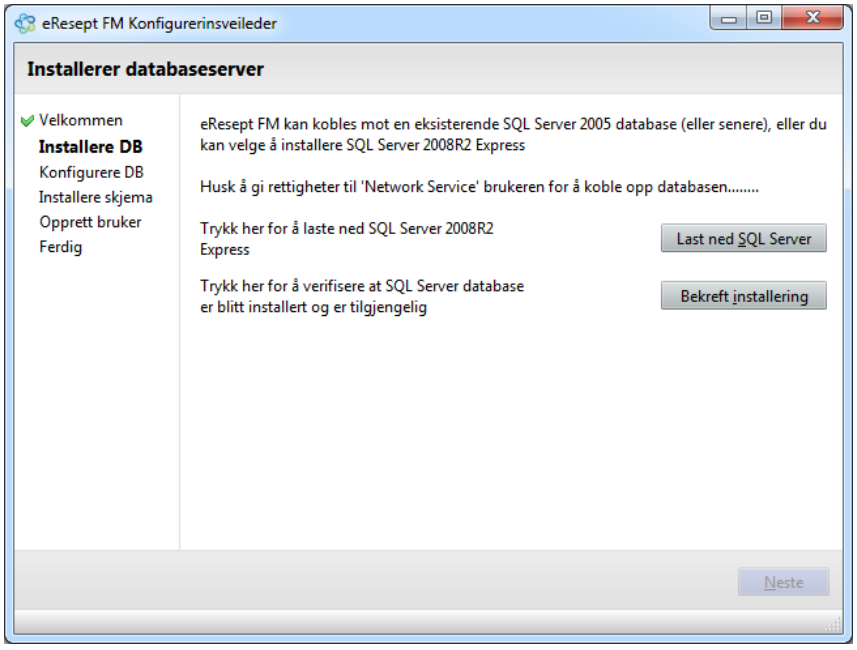


Since the installed application server does not start automatically after install (it does after a restart) there is a button to start it. Alternatively the service can be started using the built in ***Services*** management tool in Windows.

When the wizard detects that the application server has started, information about that is shown and the Next button becomes enabled

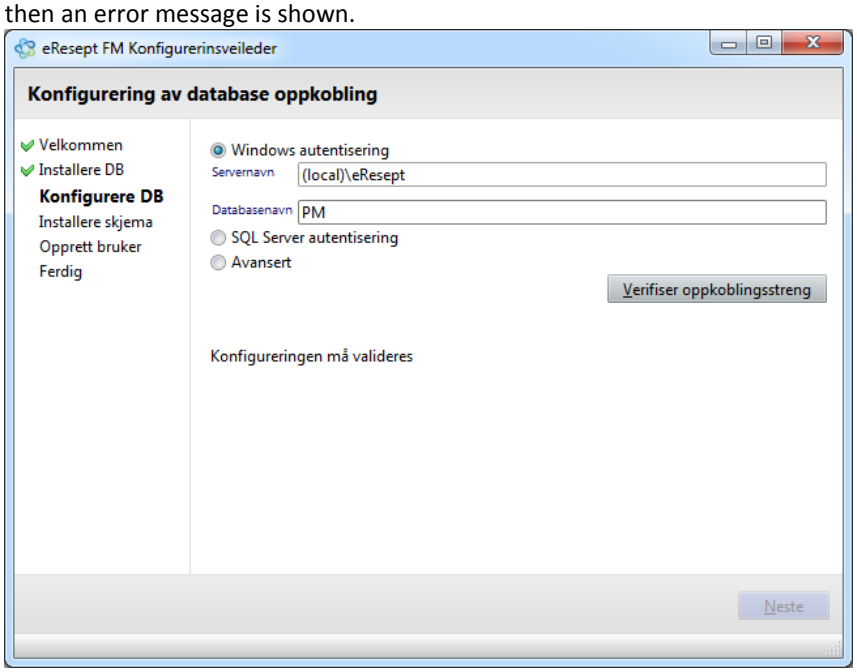


2. In the second step you must make sure that Microsoft Sql Server is installed or available, or download and install Sql Server Express from the link provided by download button. If the database server has been installed and the plan is to connect using Windows Authorization then make sure that the Network Service user has been given privileges to the database server, and then press the confirm button. That makes it possible to go to the next step in the installation wizard.

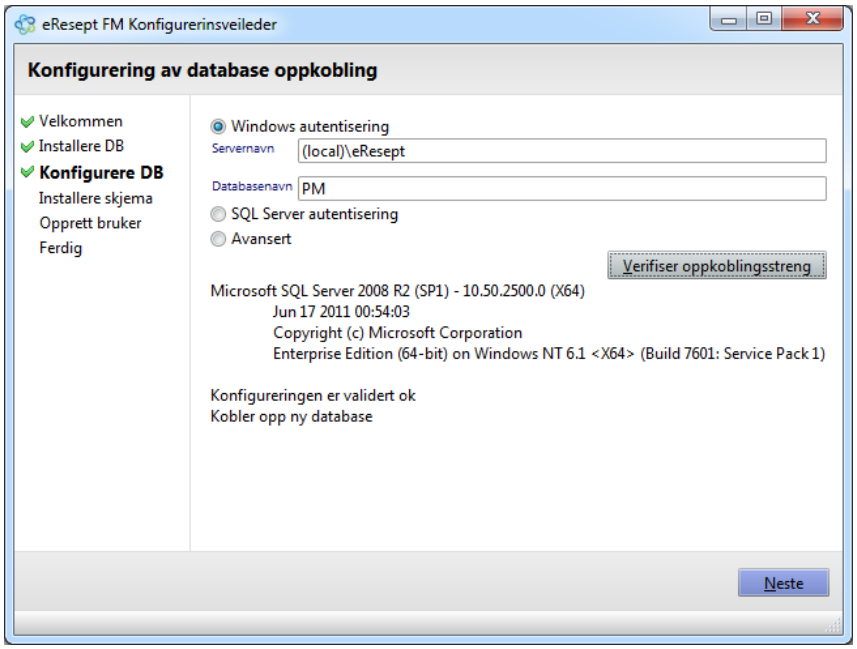


3. When configuring the connection to the database server the user can choose to use Windows authentication, Sql Server authentication or configure the connection manually (not recommended). The user must enter the name of database server or the name of the server and the name of the Sql Server instance if the database server was installed as a named instance as in the screen shot below. Note that Sql Server Express is by default installed as named instance with the name ***sqlexpress***. If the user chooses Sql Server authentication then additionally user name and password for the Sql Server must be entered. Before being able to go to the next step, the connection must be verified. If the application server cannot connect to the database server using the information provided,

then an error message is shown.

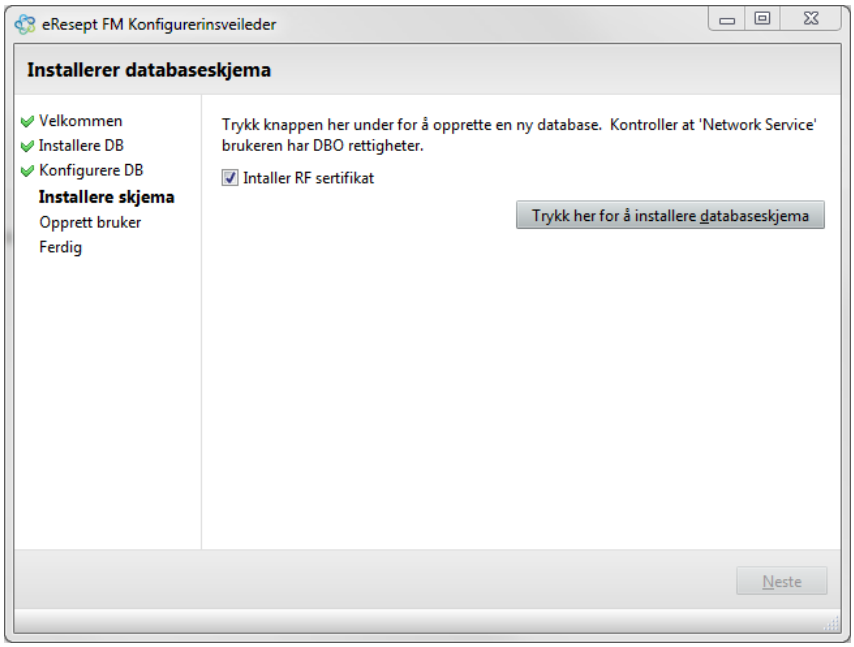


If the verification is successful, information about the server will be displayed and the „next“ button will be enabled. Changing any parameter of the connection information requires the user to re-validate the connection.

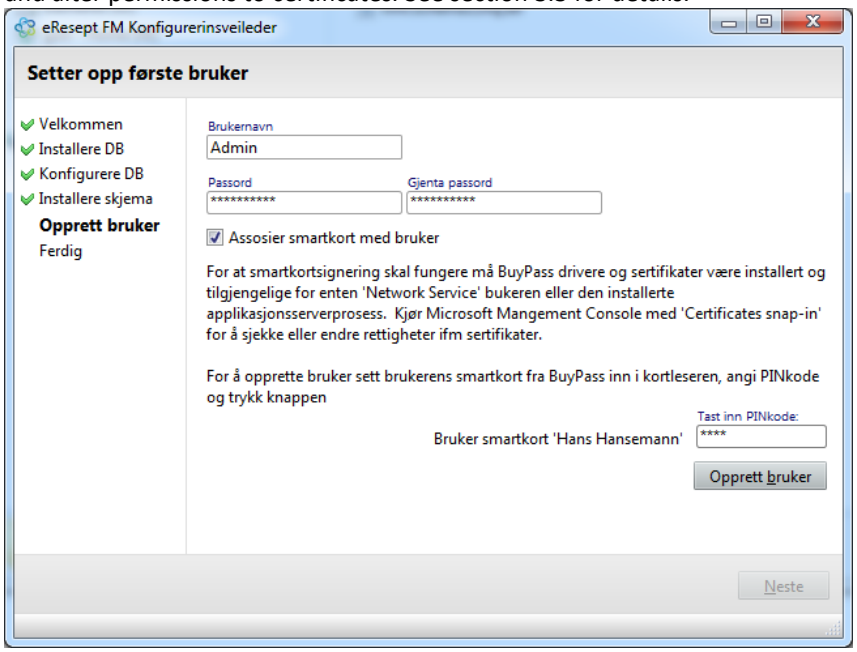


4. If the user has chosen a new (or previously created but empty) database, the next step is to import the database schema for the FM. Pressing the install button creates the database. This step is skipped if the provided connection string in the previous step points to an existing eResept database.

   When the “Install RF certificate” option is selected, the default RF certificate is installed (when pressing the button to create the database) and set as the certificate to be used for communications with the RF. This can certificate can also be installed/altered at a later stage using the Admin client.

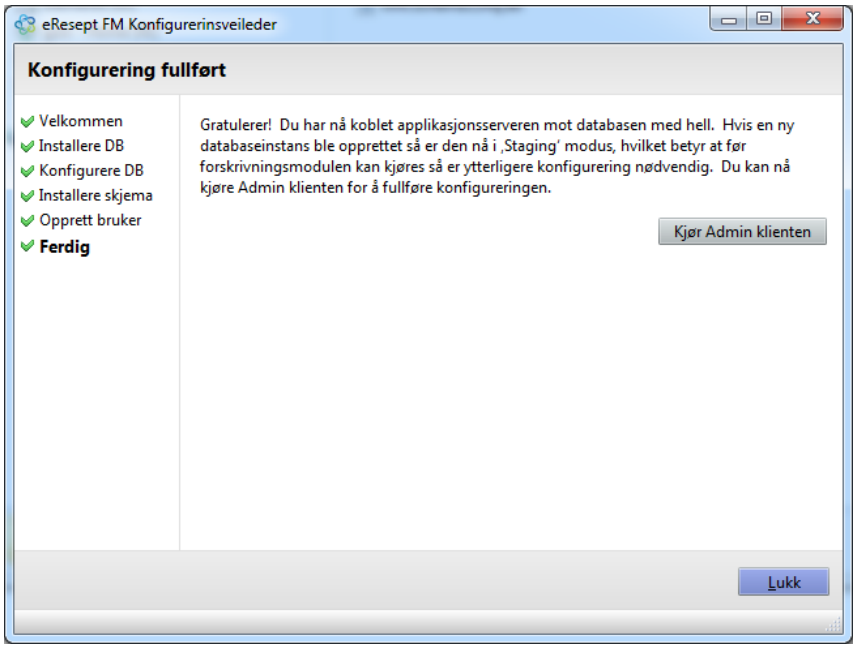


The next step is to create a user in the eResept database. This user must be assigned username and password. A BuyPass smart card can be associated with the user by inserting a smart card in an attached card reader and providing the correct PIN code. The created user can then be used to access the Admin client using username and password or by signing in using only the smart card. It is required that the application server has access to the installed BuyPass certificates. Use Microsoft Mangement Console with the Certificates snap-in to view and alter permissions to certificates. See section 3.3 for details.



5. After successful installation of a new database, the system must be configured using the Administration client. If the FM client has also been installed on the computer the button to

run the Administration client will be enabled.



4.1.4 Configuration using the administration client

Final step to set up the application server is to run the administration client, either directly from the configuration wizard, or from the start menu. Note that to do this the FM client must be installed. See details on the Administration client in the provided help file by pressing F1 while running the Administration client.

4.1.5 Advanced configuration

The configuration in this chapter is intended to be done by a system administrator, since it requires knowledge of the database, and administrator privileges on all computers being configured.

4.1.5.1 Registry settings

The following settings must be present in the registry and configured according to the location of the eResept database and application server.

4.1.5.1.1 Client settings

For the client to find the application server, a string value must be added to the registry as shown below.

Operating system	Key value and name
32 bit OS	[HKEY_LOCAL_MACHINE\SOFTWARE\Theriak\eResept Forskrivningsmodul\Client] "ServerAddressAndPort"="*name_of_computer_running_application_server*:8903"
64 bit OS	[HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Theriak\eResept Forskrivningsmodul\Client] "ServerAddressAndPort"=" *name_of_computer_running_application_server*:8903"

4.1.5.1.2 Application server settings

The connection string used by the application server to connect to the database is stored in the following registry values and configured correctly for the server to operate. If the configuration wizard was run then these settings have already been created and configured.

Operating system	Key value and name
32 bit OS	[HKEY_LOCAL_MACHINE\SOFTWARE\Theriak\eResept Forskrivningsmodul\Server] "DatabaseConnectionString"="*enter_your_database_connection_string_here*"
64 bit OS	[HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Theriak\eResept Forskrivningsmodul\Server]

	"DatabaseConnectionString"="*enter_your_database_connection_string_here*"

4.1.5.1.3 User management web service

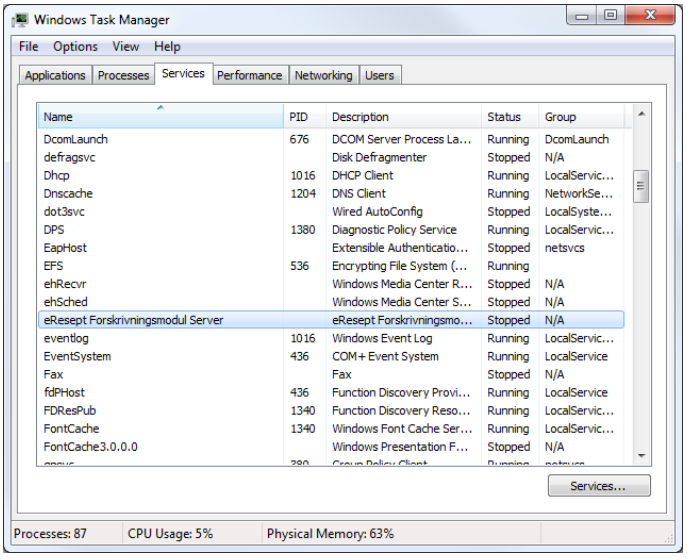
The user management web service is turned off by default. The switch to turn it on/off is in the advanced view in the system configuration window. The configuration on the web service is in the config file for the application server. The filename is "eResept Forskrivningsmodul Server.exe.config". By default the the configuration is set to run the web service on http://localhost:8000/UserManagement. If the service is running as the user "Network Service" then the user needs to reserve the namespace. See http://msdn.microsoft.com/en-us/library/ms733768.aspx on how to configure. To configure the web service on HTTPS (encrypted communication) the baseAddress needs to be set to HTTPS and another port if also to run HTTP. For HTTPS there needs to be certificate in place. See http://msdn.microsoft.com/en-us/library/ms733791.aspx on how to bind the certificate needed to the HTTPS listener.

4.1.5.2 SmartCard drivers

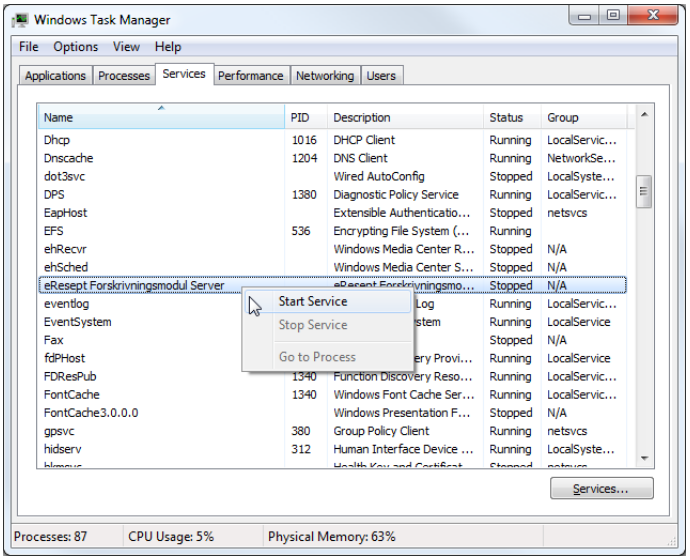
For an eResept installation that is communicating externally, the BuyPass SmartCard drivers must be installed in order for the SmartCards to work. Additionally, the BuyPass certificates must be imported into the trusted root certificate store for the local computer. See section 3.3 for details.

4.1.5.3 Manually starting and stopping the application server

1. If needed, the application server can be stopped and started from the computer's task manager by right-clicking on the computer toolbar. Select the **Services** tab, and find the entry called **eResept Forskrivningsmodul Server**: If the configuration wizard was run then the service should already be running.



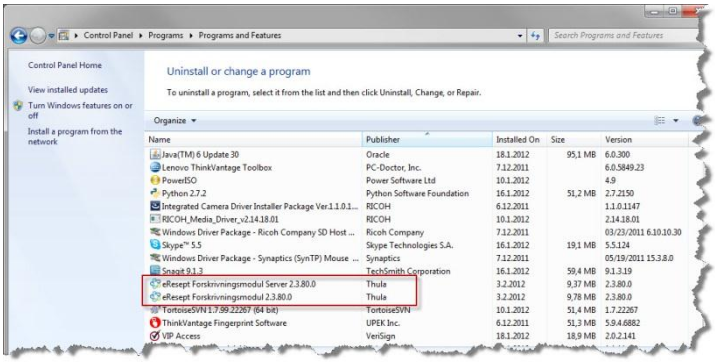
2. Right-click on the server, and select **Start Service.** When the status changes from Stopped to Running, the server is ready to use:



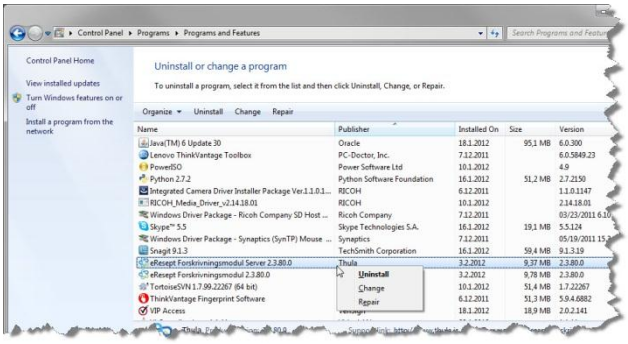
4.2 Installing eResept FM on a computer with previous version

When installing a new version on a computer with a previous version of the Prescription Module, it is recommended to first uninstall the version already on the computer.

3. Open the computer's Control Panel, and select Programs and Features. A list of all programs installed opens. Locate the two eResept items in the list:



4. For each entry, right click and select Uninstall:



5. When the uninstall is complete for both eResept Forskrivningsmodul Server and eResept Forskrivningsmodul, the install can be completed as described here in sections 4.1.1 and 4.1.2.